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ABSTRACT

Part of a series devoted to the topic of career education in transportation, this manual, which is intended for use by students in grades 9-10, provides learning activities for a career exploration program in the field of transportation. Following the program plan outlined in the teachers' guide (CE 013 879), the activities are divided into the eleven categories of the program's objectives: (1) communication skills, (2) transportation's contribution to society, (3) changing employment, (4) job operations, (5) employment outlook for specific fields, (6) skills required, (7) job descriptions, (8) career ladders, (9) life styles, (10) entry level requirements, and (11) career planning. As an individualized instructional program, the types of activities included allow the students flexibility in choosing how and what objectives they will work towards. The activity worksheets that they will complete for each objective require them to consult outside resources, such as industrial personnel, newspapers, and reference materials, and analyze their own thoughts. In a section of supplementary teacher material, it is suggested that the procedure of students working in small groups may be more beneficial than their working individually. (ELG)

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ED159309

EXPLORATION
OF
CAREERS IN TRANSPORTATION

Student Manual

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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CE 013 880

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SUPPLEMENTARY TEACHER MATERIAL

As suggested in "The Program Plan," the student materials that follow are designed for implementation in an individualized instructional system.

The roles of the student and the teacher in such a system are briefly described by the Laboratory for Advancement of Education Washington, DC as follows:

Students:

- --have available, in writing, the objectives toward which they are working,
- --work toward a variety of objectives,
- --use a variety of materials and procedures,
- --move freely around the classrooms, libraries, community, etc.,
- --talk freely to each other about their work and
- --work on objectives individually, with small groups of classmates, with community persons, visiting experts or their teachers.

Teachers:

- --encourage students to have a variety of objectives,
- --allow students to move from place to place (in school and community), based on what it takes to achieve objectives,
- --spend more time answering questions of individuals and small groups than lecturing to the entire class,
- --encourage students to help determine the materials they work with and the procedures they follow and
- --review student and program success in order to continuously improve the program.

In order to best achieve this educational atmosphere, feel free to alter these activities to suit the needs of your students within the constraints of available community resources. In some instances, in which a small group discussion has been suggested, you may find it more helpful to incorporate a large group discussion — or perhaps no discussion at all.

And due to the nature of several suggested activities (i.e. survey work within the transportation industry), it may be more beneficial in your setting to encourage students to work in small groups rather than individually.

Finally, this flexibility cannot be emphasized too strongly, and consequently an additional project, encouraging the student to design his/her own activity, follows.

Prepare your own activity to illustrate a particular objective with regard to the job family you have chosen to explore. Feel free to alter the suggested format (below) for reporting your activity.

OBJECTIVE: _____

JOB FAMILY: _____

OCCUPATIONAL GROUP: _____

PROCEDURE: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

CONCLUSIONS:

OBJECTIVE 1

COMMUNICATION SKILLS

1. Prepare at least three questions you might have regarding the use of the telephone in the job you have chosen to explore. Your teacher will help you to arrange a discussion with a telephone company representative to ask your questions. In the space below each question, summarize the telephone company representative's response. (use the back if you need more space)

Question:_____

_____

Response:_____

_____

Question:_____

_____

Response:_____

_____

Question:_____

_____

Response:_____

_____

2. Write a letter to a local transportation firm. In your letter, request sample copies of forms and reports relating to the job you are exploring, along with instructions for filling out the forms. Be sure to explain the purpose of your request in the letter. Fill out the forms when they arrive, have your teacher check them over and put them in your notebook for future reference.

3. Using the school library, or other available resources, prepare a list of terms relating to the job you are exploring. Define the terms in your own words using the form below. You'll have to do this on another sheet of paper to keep in your notebook.

Term:_____ Definition:_____

_____

_____

4. Obtain a copy of a transportaton industry "house organ." (A house organ is a business publication issued to employees and customers.) In a small group, define and discuss the importance of internal communication. Observe the special terms used in the publication. List some of these special terms, and in your own words, define them using the following form. Again, you'll need some more paper.

Internal communication_____

_____

Term:_____ Definition:_____

_____

_____

5. Visit a ship, airplane, truck, bus etc. and observe the instruments involved in the vehicle's operation. If this is not possible, closely observe the instruments involved in operating the family car or truck. What does this have to do with communication skills? Use additional paper if necessary.

OBJECTIVE 2

TRANSPORTATION AND SOCIETY

1. Almost all jobs contribute in some way to society. Jobs in transportation are, of course, no different. Based upon your own ideas, prepare at least three statements explaining how the job family you have chosen to explore contributes to society.

JOB FAMILY:_____

1._____

_____

_____

2._____

_____

_____

3._____

_____

_____

Ask a worker in the job family you are exploring the same question you answered. Write down what he or she said.

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

Compare your statements with what the worker said. What conclusions can you draw?

_____

_____

_____

_____

_____

_____

OBJECTIVE 3

CHANGING EMPLOYMENT PATTERNS

1. Is there a need for workers in a job family that interests you? To find out, prepare a scrapbook using the "Help Wanted" section of local and regional daily newspapers. Over a two-week period, paste clippings of vacancies within the job family you have chosen to explore. HINT: Sunday papers will be very helpful. What conclusions can you draw?

_____

_____

_____

_____

_____

_____

_____

2. Write a paper answering one of the following questions:

   1) How have recent technological changes affected my future employment prospects in the transportation industry?

   2) How have recent economic changes affected my future employment prospects in the transportation industry?

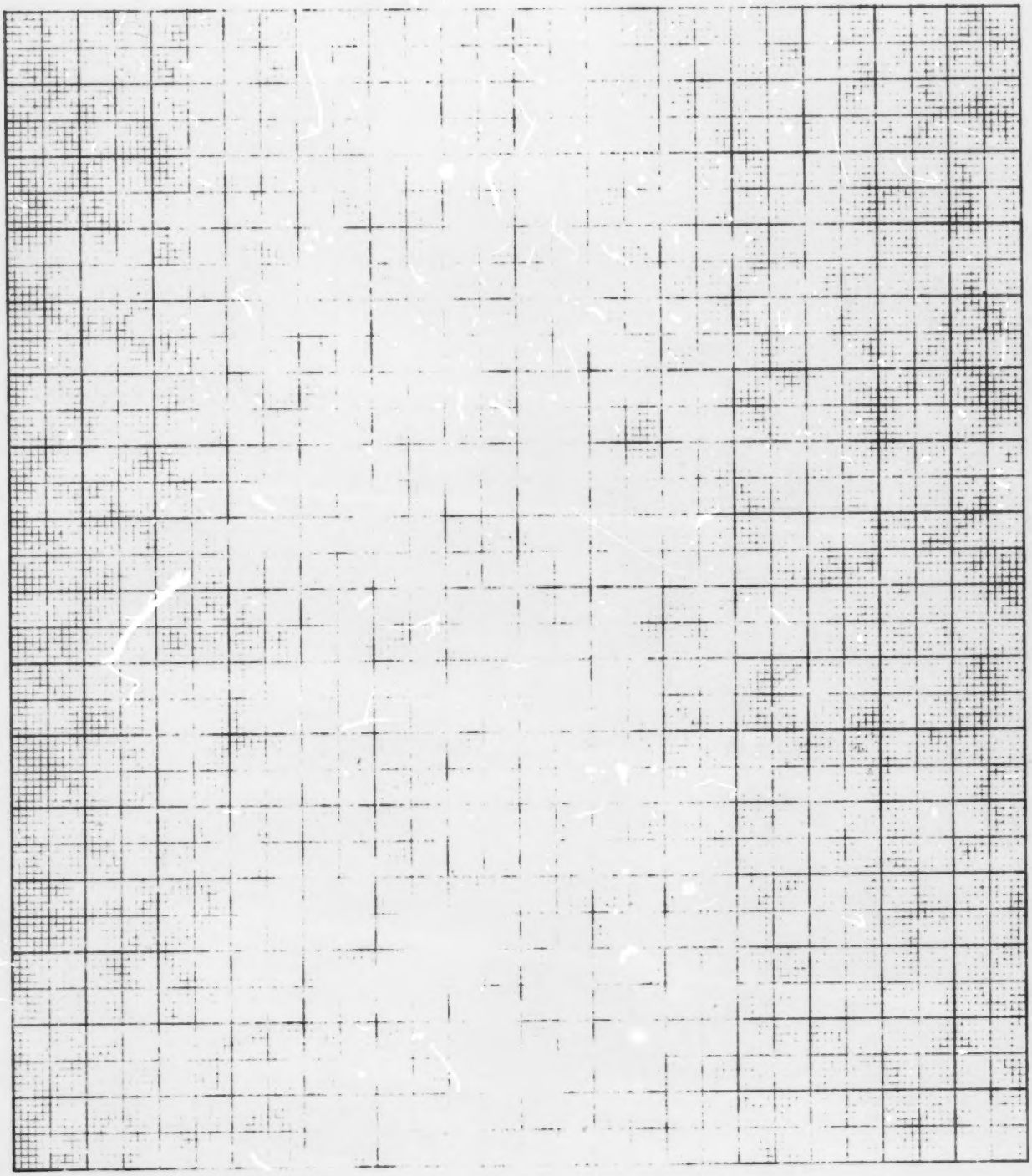
   3) How have recent social changes affected my future employment prospects in the transportation industry?

HINT: The *Reader's Guide* is a good place to begin this activity. Don't forget *The Occupational Outlook Quarterly*, either.

3. Each day for a month, count the number of ads in either a local or regional daily newspaper for openings in the transportation job family you are exploring. Also count the number of ads for a specific occupational group within that job family. Record your findings each day on the graph provided.

Do the same for the same time period three years ago and again for the same time period six years ago. A process called "microfilm" in which newspapers are photographed page-by-page and greatly reduced in size might help you with this. University and public libraries often have newspapers on microfilm. Your local newspaper offices may be able to help with this, also.

What conclusions can you draw about employment patterns in the job family you explored? Use separate paper to answer this.



OBJECTIVE 4

JOB OPERATIONS

1. Now that you have selected an occupational group and job family to explore, you should begin to develop an understanding of what these workers do. One source of this information is the *Occupational Outlook Handbook* from the U. S. Department of Labor, Bureau of Labor Statistics. A section of more than 100 pages is devoted to transportation and related fields.

What are the specific duties of workers in your chosen job family? An ordinary seaman will "perform general deck maintenance work such as scrubbing decks, coiling and splicing ropes, chipping rust and painting. Ordinary seamen may also 'spell' the helmsman and lookout." What does 'spell' mean?

You might record these observations this way:

Job: Ordinary Seaman

No.	Ordinary Seaman Tasks	Frequency of Performance	Importance	Learning Difficulty
1.	scrubs decks	often	some	easy
2.	coils ropes	often	some	moderate
3.	splices ropes	occasionally	great	difficult
4.	chips rust	occasionally	great	moderate
5.	painting	occasionally	great	difficult
6.	helmsman	regularly	very great	difficult
7.	lookout	regularly	very great	fairly easy

Using the chart provided, and resources available, identify some specific job operations (tasks) for the occupational group you are exploring. Your teacher will arrange for you to observe and talk with workers. Complete the chart based on what you have seen and how the workers themselves view their tasks.

Job: _____

No.	Tasks	Frequency of Performance	Importance	Learning Difficulty
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				

What conclusions can you draw?_____

_____

_____

_____

_____

_____

2. With your teacher's help, arrange to interview several persons employed in the occupational group you are exploring. Record their answers to the following questionnaire:

1. What is your job title?_____

2. How many people work in this job at this firm?_____

3. What are the principal duties of workers on this job?_____

_____

_____

_____

4. On the average, how much time is devoted to each duty each day?

_____

_____

5. On the average, how many hours are spent on the job each week?

_____

6. How many hours are spent at tasks related to the job while off work?

_____

7. Is this job affected by seasonal layoff?_____If 'yes', explain.

_____

_____

_____

8. What do you like about this job? Why?_____

_____

_____

_____

9. What do you dislike about this job? Why?_____

_____

_____

_____

10. What particular hazards are connected with this job?_____

_____

_____

_____

What conclusions can you draw?_____

_____

_____

_____

_____

_____

_____

3. Your teacher will help arrange for you to spend a working day with a worker in the occupational group you have chosen to explore. You will have the opportunity to observe job operations or possibly to perform them yourself. (Arrangements should be made in advance to enable your active participation in this activity.) Using your own format, maintain an accurate log of your activities for the day.

OBJECTIVE 5

EMPLOYMENT OUTLOOK

1. Write your own definitions for the following three terms:

skilled worker_____

_____

semi-skilled worker_____

_____

unskilled worker_____

_____

2. Using your definitions, visit, call or write an employment counselor at a local employment agency. Obtain information regarding transportation employment opportunities available (at the national level as well as local, if possible) and skills and education needed.

List at least three skilled positions in the transportation field.

1._____

2._____

3._____

List at least three semi-skilled positions.

1._____

2._____

3._____

List at least three unskilled positions.

1._____

2._____

3._____

3. There are several ways to approach job hunting:

A. Let all your friends know that you are looking for a job.

B. Tell other people whom you know casually — the local grocer, building or office janitor, policeman, teacher or anyone else who might know of a job for you. Don't harass them, but remind them from time to time that you are still looking for a job.

C. Another possibility is a local State Employment Agency. Many large and small businesses turn in a list of their job openings to these agencies. The employment agency can then match the company's needs to your qualifications.

D. A fourth method is one that requires considerable effort. It can be tiring and often discouraging, yet it very often pays off. Make a list of all the businesses in your own neighborhood and then simply start knocking on doors. One of these doors might be the right one. Local businessmen often prefer to hire local people for the jobs.

E. Have you ever noticed the "Help Wanted" advertisements in the back section of most newspapers? Do that tonight. These ads usually ask that you reply in one of several ways:

1) call to schedule an interview
2) write a letter giving your qualifications
3) apply in person
4) call to have an application sent to you

F. Occasionally your high school is able to find jobs for students. The counselors are in touch with local businesses and are aware of some job openings. Also, businessmen and neighbors ask for student help (usually for seasonal or part-time employment).

G. One area which people often forget about as they look for a job is the yellow pages of the telephone directory.

H. Are there any other areas that you can think of which offer leads for employment?

_____

_____

_____

Of the methods listed for finding a job, which one sounds best to you?

_____

_____

Why?_____

_____

_____

If you had a choice of writing a company for a job or calling them by telephone, which would you choose?

_____

_____

Why?_____

_____

Paste in this space, an ad from the newspaper for a job which you are qualified to hold. Keep in mind the skill level required.

Paste in this space, an ad from the newspaper for a job which you someday will be qualified to hold.

What additional skill level requirements will you need to obtain this position?

_____

_____

_____

4. Either write a letter or arrange a visit to the personnel office of a local corporation whose employees work in the job family you are exploring. Obtain answers to the following questionnaire, and on a separate sheet of paper, briefly summarize your conclusions. With your teacher's permission, you may wish to work with other students on this project. HINT: After you schedule an appointment, send a copy of the questionnaire to the personnel office. Fill in your own definitions for the three categories of workers, also.

JOB FAMILY_____

skilled worker_____

_____

semi-skilled worker_____

_____

unskilled worker_____

_____

Keeping in mind the above definitions, please answer the following questions:

1. What percent of your entire work force consists of skilled workers?_____semi-skilled workers?_____unskilled workers?_____

2. Do you think these percentages will change in the next five years?_____. If so, in what way?_____

_____

_____

3. What are the salary ranges (lowest to highest) for unskilled workers?_____

semi-skilled workers?_____

skilled workers?_____

4. Are semi-skilled and unskilled workers given any opportunity for improvement through on-the-job training, special courses or part payment of tuition?_____

If so, briefly explain._____

_____

_____

5. If your son or daughter wanted to make a career in this occupational group and wanted to advance as far as he or she could, in what category (skilled, semi-skilled or unskilled) should he or she first apply for employment?_____

Please explain your response._____

_____

_____

_____

_____

_____

OBJECTIVE 6

REQUIRED SKILLS

1. What do we mean by "degree of skill?" A man painting a fence in his backyard has something in common with a famous artist — both use paints and brushes — but the degree of skill is different.

We have identified two such degrees of skill:

1) Physical/memory work — This involves either performing simple physical acts with little skill needed or merely memorizing procedures.

2) Problem solving work — This involves solving problems or making decisions between two or more choices.

The more actions that involve decision-making (problem solving), the higher the degree of skill involved. If there is more physical/memory work, the less skill required. What would a combination of the two indicate?_____

To illustrate this, refer to the seaman in the job description activity. His series of job operations might be classified like this:

Job: Ordinary Seaman

No.	Tasks	Frequency Of Performance	Importance	Learning Difficulty	Skill Level
1.	scrubs decks	often	some	easy	
2.	coils ropes	often	some	moderately easy	
3.	splices rope	occasionally	great	difficult	
4.	chips rust	occasionally	great	moderately difficult	
5.	painting	occasionally	great	difficult	
6.	helmsman	regularly	very great	difficult	
7.	lookout	regularly	very great	fairly easy	

Fill in the blanks with either "physical/memory" or "problem solving." Based on the chart, would you say the ordinary seaman is skilled, semi-skilled or unskilled?

_____ Why? _____

_____

_____

2. Using the chart provided, fill in the information you obtained in the first activity in Objective 4. Determine the skill level involved.

Job:_____

No.	Tasks	Frequency Of Performance	Importance	Learning Difficulty	Skill Level
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					

Based on the chart, would you say the occupation you explored here requires skilled, semi-skilled or unskilled workers?

_____ Why? _____

_____

_____

_____

OBJECTIVE 7

JOB DESCRIPTIONS

1. By using the *Occupational Outlook Handbook*, the *Dictionary of Occupational Titles* and any other resources available, compile a job description notebook for as many occupations as you can think of within a job family you wish to explore. Share your notebook with other students who have completed this activity.

2. Compile a collection of sample job descriptions within your selected occupational group. Use the "Help Wanted" section of your local newspaper, of the nearest metropolitan paper and of any related trade journals. Paste your findings in a scrapbook, and share it with other students.

OBJECTIVE 8

CAREER LATTICES

1. A career lattice is a type of graph for an occupation illustrating job opportunities from entry-level jobs to the highest positions. (An entry-level job is one which is available to the average worker upon entering a business or career.) It may not be desirable for you to train yourself for only one job. Knowledge of a career lattice will allow you to see beyond the present job in order to take advantage of opportunities for advancement. On the following page is an example of a career lattice showing the possibilities for an auto body repair person.

Referring to the career lattice, fill in the blanks below:

1) Identify an entry-level position._____

_____

2) Name three positions you would consider to be among the highest paying._____

_____

_____

3) At the top of the lattice is "OPPORTUNITY UNLIMITED." What do you think that means?_____

_____

_____

4) What would "OPPORTUNITY UNLIMITED" mean on a career lattice for the job family you are exploring?_____

_____

_____

2. On separate paper, construct a career lattice for the job family you are exploring. Use whatever resources are available. If necessary, don't hesitate to ask help from a related personnel department nearby. And don't panic, either — your teacher will be available for help.

While working on this activity, keep in mind the following questions:

--Which entry-level jobs lead to the highest positions?

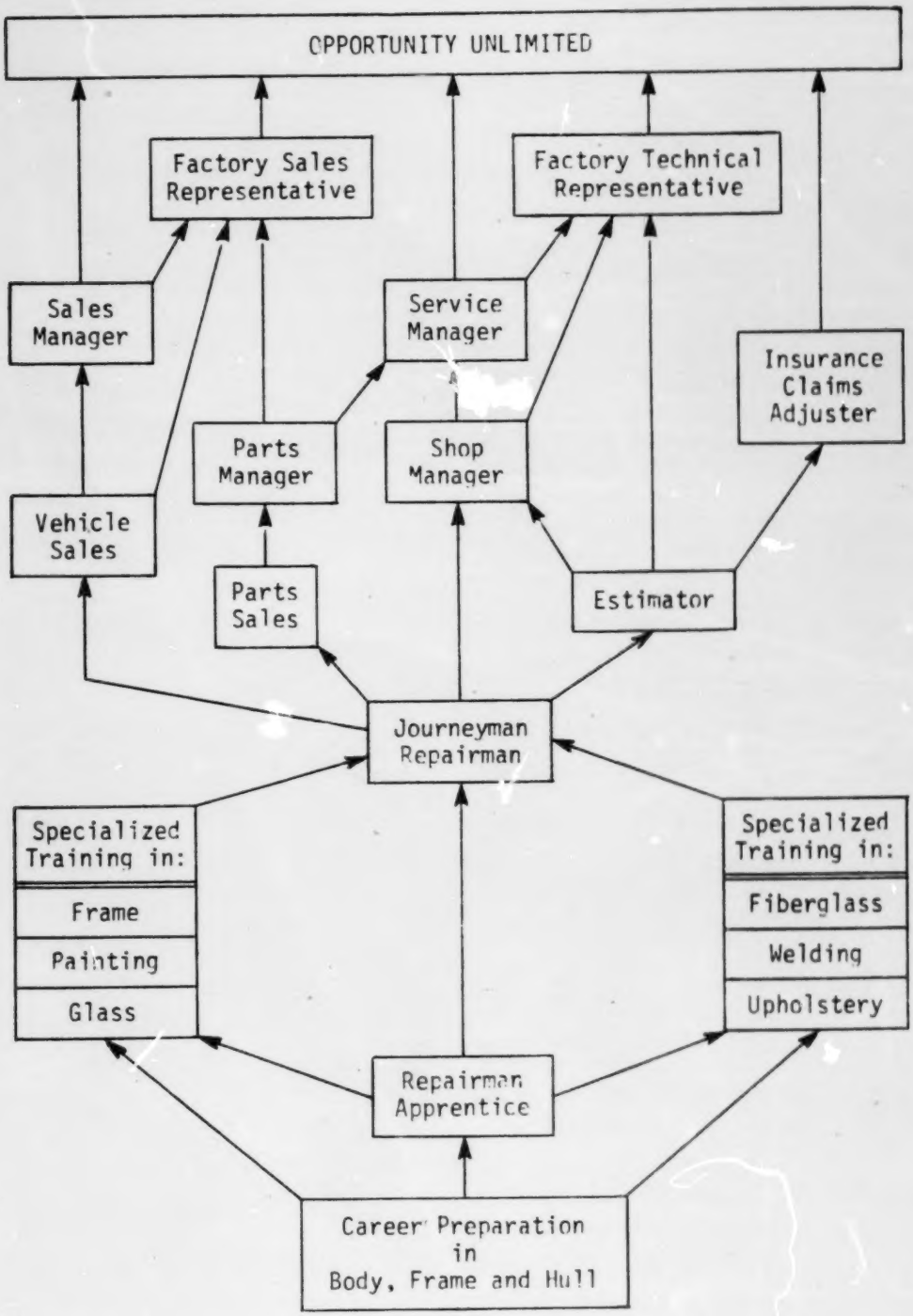
_____

_____

--Which entry-level jobs offer the <u>least</u> opportunity for advancement?_____

_____

_____



Career Lattice Model

OBJECTIVE 9

LIFE STYLES

1. With your teacher's help, arrange a class visit to a meeting of the local Traffic Club, Delta Nu Alpha fraternity, Practitioners' Association, American Society of Traffic and Transportation, etc. Become aware of the meanings of formal and informal behavior and observe the workers with this in mind.

formal behavior_____

_____

informal behavior_____

_____

On separate paper, compare the workers' behavior with your own expectations and values.

2. Prepare a bibliography on information dealing with life styles of workers in transportation job families you have discussed. Your list should be thorough enough to assist any student interested in closely examining the life styles of workers in a particular job family. HINT: The *Reader's Guide* is a good place to begin this activity.

3. With your teacher's help, arrange to have the questionnaire on the following page given to a group of workers in the job family you are exploring. You may wish to work on this project with one or two other students.

After you complete this activity, discuss any conclusions you may have about the life styles of the workers in the job family you explored. Use more paper if necessary.

Job Title:_____

1. Why are you in this line of work?_____

_____

2. Do you prefer to work indoors or outdoors?_____

_____

3. Do you work better in hot weather or cold weather?_____

_____

4. Do you prefer to work alone, with a small group of people you know, or do you like meeting strangers?_____

_____

5. What is the best part of the job as far as you are concerned? Check one. Salary_____. Hours_____. Security_____. Opportunity for advancement_____. Chance to meet people_____. Challenge_____. Other (name)_____.

6. Do you prefer a job with regular hours each working day, or do you prefer different hours on different days?_____

_____

7. Do you like things explained to you in detail, or do you prefer to figure them out for yourself?_____

_____

8. What kind of person do you like to work with on the job?

CONCLUSIONS:

OBJECTIVE 10

ENTRY LEVEL REQUIREMENTS

1. Select two entry-level jobs in different transportation job families that interest you. Find out what, if any, training is required for each job and, using whatever resources are available, determine the cost and the time involved.

Entry-level job_____

Training requirement_____

Probable cost involved_____

Probable time involved_____

Entry-level job_____

Training requirement_____

Probable cost involved_____

Probable time involved_____

What conclusions can you draw about your findings?_____

_____

_____

_____

2. By using the *Occupational Outlook Handbook* and talking with local and state employment counselors, personnel directors, guidance counselors etc. list educational/training requirements for at least three entry-level jobs in the job family you are exploring. In addition, answer the following questions about each job by using the form provided.

--If additional training is involved, how long does it take?
--How much will the training cost?
--How much money can be earned entering each entry-level job?
--What opportunities for additional training do each job provide?

Job family_____

Entry-Level job_____

Educational/training requirements_____

_____

_____

_____

Time involved for additional education/training_____

_____

_____

Starting pay upon entering job_____

Opportunities for additional training_____

_____

_____

_____

Based on the above information, is this a good entry-level job for you?_____Why?_____

_____

_____

_____

_____

_____

_____

OBJECTIVE 11

CAREER PLAN

You have completed a number of activities designed to help you with career plan. Use whatever information you have compiled and any other resources available to complete the following questionnaire. If possible, do this with at least three job titles that interest you.

Occupation_____

Job title_____

Describe the type of work performed by this occupation:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

List the tools or equipment used in this occupation:_____

_____

_____

_____

Indicate the educational requirements for this job:

High school education_____ College_____

Technical school_____ Other_____

Further information_____

_____

Years of education/training required_____

High school courses required or helpful

_____ _____

_____ _____

_____ _____

_____ _____

Education and/or training after high school

_____

_____

Places where education/training after high school is available

Describe the working environment of this occupation

Is the demand for this occupation greater in any part of the country?

What are the opportunities for advancement?

Why do you consider this a desirable occupation? (write a paragraph or more)